

**MATH 1413 - Survey of Calculus**  
**Hours Credit:** 3 hours  
**Prerequisites:** Math 1111 or Math 1113  
(80105) MATH-1413-01 and (80106) MATH-1413-02

**COURSE INSTRUCTOR**

**Instructor:** Vanthu Tran  
**Office:** Ingram Library 311  
**Email:** vtran@westga.edu  
**Phone:** (678) 839 - 3926

**OFFICE HOURS**

Monday, Wednesday: 1:00-3:00 p.m.  
Tuesday and Thursday: 2:00-3:00 p.m.  
Or by appointment

**TEXTBOOK**

*Calculus and Its Applications (11<sup>th</sup> edition), by Bittinger, Ellenbogen and Surgent (Addison Wesley)*

**Courses Description**

This course will provide a survey of the differential and integral calculus of polynomial, rational, exponential, and logarithmic functions with an emphasis on applications to problems from business, economics and life sciences.

**Learning Outcomes**

1. The student will be able to compute limits using graphical, numerical and/or algebraic techniques.
2. The student will be able to differentiate polynomial, rational, exponential, and logarithmic functions.
3. The student will be able to apply differential calculus to problems from business, economics, and life science.
4. The student will be able to integrate polynomial, rational, exponential, and logarithmic functions and to apply the Fundamental Theorem of Calculus.
5. The student will be able to apply integral calculus to problems from business, economics, and life science.
6. The student will understand the basic techniques of integration.

**COURSE ASSESSMENT**

Students' mastery of course learning outcomes will be assessed using the following methods:

Quizzes and Assignments	24%	(drop 3 lowest scores)
Tests – 4 as announced	51%	(drop 1 lowest score)
Comprehensive Final Exam	25%	

NOTE: Graphing calculators equivalent to the TI 83, 84, 85, and 86 will be allowed on the exam, as will scientific calculators. The TI-89 and other equivalent calculators will not be allowed.

### **Grading Scale:**

90% - 100%:	A
80% - 89%:	B
70% - 79%:	C
60% - 69%:	D
<60%:	F

## **OTHER COURSE INFORMATION**

**Assignments/Quizzes:** Homework is online, using MyOpenMath: <https://www.myopenmath.com/>. Check the announcement on CourseDen for registration information. Assignments for the week will be due on Sunday before midnight. You may turn in late assignments, with points deducted. All late assignments must be turned in by Sunday night before the given test. There will be in-class and/or take-home quizzes. Dates for the quizzes will be announced in class. There will be no make-up quizzes. If you are not present for a quiz or fail to turn in an assignment, a zero is recorded.

**Tests/Exam:** You must take tests on the specified date. Usually, makeup tests will not be given unless you miss a test for reasons that are serious, unavoidable, and beyond your control. **You must contact me before the next class meeting if you miss a test or a zero is recorded.** When possible, you should notify me before missing the work.

The final exam is a required class meeting that will not be rescheduled for discretionary reasons, including conflicts with work schedules, conflicts with classes and exams at other colleges, and travel plans.

## **COURSE POLICIES AND INFORMATION**

### **University Policies and Academic Support**

Please carefully review the following Common Language for all university course syllabi at the link:

[http://www.westga.edu/assetsDept/vpaa/Common\\_Language\\_for\\_Course\\_Syllabi.pdf](http://www.westga.edu/assetsDept/vpaa/Common_Language_for_Course_Syllabi.pdf)

It contains important material pertaining to university policies and responsibilities. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.

### **Academic Honesty**

**NOTE: ALL FORMS OF ACADEMIC DISHONESTY SHOULD BE REPORTED AND THE STUDENT NOTIFIED.**

Definitions of academic dishonesty are defined in the student handbook: [www.westga.edu/handbook/](http://www.westga.edu/handbook/)

### **Disabilities Act/Accessibility for the Course**

If you are a student whom is disabled as defined under the Americans with Disabilities Act and require assistance or support services, please notify me and provide me with a copy of your packet from Student Services. The university will provide you with resources for any audio/visual needs that you may have with the learning management system or course content.

Please contact UWG Accessibility Services for more information.

### **Student Conduct**

Students are expected to abide by the guidelines detailed in the university catalog. Respect and courtesy are required of all students while in the classroom.

### **Attendance and Communication:**

To provide all students with the most effective learning environment, you will be expected to be in class before instruction begins and to stay until the class is dismissed. If your schedule does not permit this to happen, you may need to change your schedule. If you miss a class, it is your responsibility to make up missed work. You are responsible for any material covered in your absence. Attendance will be taken and records will be sent to the Math Department. You are responsible for all announcements made in class and posted on CourseDen.

### **IMPORTANT DATES:**

<b><u>First Day of Class:</u></b>	Wednesday, August 14
<b><u>Drop Ends:</u></b>	Tuesday, August 20
<b><u>Last Day to Withdrawal with W:</u></b>	Wednesday, October 9
<b><u>Last Day of Class:</u></b>	Friday, December 6
<b><u>Final Exam Period:</u></b>	December 7-13 (see The Scoop for specific times)
<b><u>No classes:</u></b>	Monday, September 2 (Labor Day)
	Thursday October 3 and Friday October 4 (Fall Break)
	Monday November 25- Friday November 29 (Thanksgiving)

## TENTATIVE SURVEY OF CALCULUS SCHEDULE

(This schedule may be modified at any time with announcements in class, or in the CourseDen.)

<b>Week</b>	<b>Schedule</b>	<b>Content</b>
<b>1</b> 8/14	Syllabus 1.0	
<b>2</b> 8/19-8/21	1.1 1.2	Limits: A Numerical and Graphical Approach Algebraic Limits and Continuity
	1.2 continue	Algebraic Limits and Continuity
<b>3</b> 8/26-8/28	1.3-1.4	Average Rates of Change Differentiation Using Limits of Difference Quotients
	1.3-1.4 continue Test review	Average Rates of Change Differentiation Using Limits of Difference Quotients
<b>4</b> 9/2-9/4	<b>9/2 No School</b>	
	Test review <b>Test 1 (sec. 1.0-1.4)</b>	
<b>5</b> 9/9-9/11	1.5	Differentiation Techniques: The Power and Sum-Difference Rules
	1.6	Differentiation Techniques: The Product and Quotient Rules
<b>6</b> 9/16-9/18	1.7	The Chain Rule
	1.8	Higher-Order Derivatives
<b>7</b> 9/23-9/25	2.8	Implicit Differentiation and Related Rates
	3.1	Exponential Functions
<b>8</b> 9/30-10/2	3.2 Test Review	Logarithmic Functions
	Test review <b>Test 2 (sec. 1.5-1.8, 2.8, 3.1, and 3.2)</b>	

<b>9</b> 10/7-10/9	2.1 and 2.4	Using First Derivative to Find Maximum and Minimum Values Using Derivatives to Find Absolute Maximum and Minimum Values
	2.1 and 2.4 continue 2.2	Using Second Derivative to Find Maximum and Minimum Values and Sketch Graphs
<b>10</b> 10/14-10/16	2.2 continue	Using Second Derivative to Find Maximum and Minimum Values and Sketch Graphs
	2.5	Maximum-Minimum Problems: Business and Economic Applications
<b>11</b> 10/21-10/23	2.6	Marginals and Differentials
	2.7	Elasticity of Demand
<b>12</b> 10/28-10/30	3.3-3.4 Test Review	Applications: The Uninhibited Growth Model $dp/dt=kP$ Applications: Decay
	Test review <b>Test 3 (sec. 2.1-2.7, 3.3, and 3.4)</b>	
13 11/4-11/6	4.1	The Area under a Graph
	4.2	Area, Antiderivatives and Integrals
<b>14</b> 11/11-11/13	4.3	Area and Definite Integrals
	4.5	Integration Techniques: Substitution
<b>15</b> 11/18-11/20	5.1 Test Review	Consumer and Producer Surplus
	Test review <b>Test 4 (ch.4 and 5.1)</b>	
<b>16</b> 11/25-11/27	<b>Thanksgiving Break</b>	
<b>17</b> 12/2-12/4	Final Review	
	Final Review	
<b>18</b> 12/9-12/11	<b>MW 11:00-12:15 class</b> <b>Final Wednesday 12/11</b> <b>11:00-1:00 pm</b>	<b>MW 3:30-4:45 class</b> <b>Final Wednesday 12/11</b> <b>2:00-4:00 pm</b>